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(54) Title: **ARYL IMIDAZOLES AND THEIR USE AS ANTI-CANCER AGENTS**



(I)

(57) Abstract: Therapeutically effective 2,4,5-trisubstituted imidazole compounds are provided. Also provided are methods of preparing the compounds and pharmaceutical compositions comprising the compounds alone or in combination with other agents. The present invention further provides for the use of the compounds as anti-cancer agents; wherein: R1 is aryl, substituted aryl, heterocycle, substituted heterocycle, heteroaryl, substituted heteroaryl or amino; R2 and R3 are independently aryl, substituted aryl, heterocycle, heteroaryl, substituted heterocycle, or substituted heteroaryl or R2 and R3 when taken together along with the carbon atoms they are attached to, form aryl or substituted aryl, and R4 is hydrogen, halogen, hydroxyl, thiol, lower alkyl, substituted lower alkyl, lower alkenyl, substituted lower alkenyl, lower alkynyl, substituted lower alkynyl, alkylalkenyl, alkyl alkynyl, alkoxy, alkythio, aryl, aryloxy, amino, amido, carboxyl, aryl, substituted aryl, heterocycle, heteroaryl, substituted heterocycle, heteroalkyl, cycloalkyl, substituted cycloalkyl, alkylcycloalkyl, alkylcycloheteroalkyl, nitro, cyano or -S(O)<sub>n</sub>2R wherein R is alkyl, substituted alkyl, aryl, substituted aryl, heterocycle, heteroaryl, substituted heterocycle, or substituted heteroaryl.



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